DRAFT

DATA TO BE INCLUDED IN THE DOSIMETRY DATABASE TO BE AVAILABLE FOR EPIDEMIOLOGIC STUDIES OF THE TECHA RIVER COHORT

INTRODUCTION

The purpose of this statement is to clarify what data will be made available in the improved dosimetry database that will eventually be made available to epidemiologists for their study of radiogenic disease in members of the Extended Techa River Cohort (ETRC). The goal to be accomplished by this draft is to ensure that there is adequate time for discussion, if there are any questions about the nature and the adequacy of the dose estimates to be provided.

THE TECHA RIVER COHORT DATABASE

Both dosimetric and epidemiologic data concerning the ETRC are maintained on a common data system that is housed at the Urals Research Center for Radiation Medicine in Chelyabinsk. These data are accessible to both dosimetrists and epidemiologists, and there is an established, ongoing cooperation among the involved parties in performing analyses of the data. Thus, the continued use of the improved databases represents only an incremental addition to work that has been underway for many years.

DOSIMETRY DATA EXPECTED TO BE AVAILABLE IN THE IMPROVED TECHA RIVER DOSIMETRY SYSTEM

All doses to be provided in the database will be for absorbed doses with no radiation- or tissue-weighting factors applied. Units of dose will be Gy. Possible doses from ingested alpha-emitting radionuclides are believed to be insignificant and are not considered.

Datum One

A unique identifier for each individual in the study. This unique identifier has already been assigned and can be used to link dosimetric data to epidemiologic data. Such data that can be linked include date of birth, residence history, and date of vital status.

Datum Two

The end time for which the dose estimates are provided. This will be either the time of death or the end of follow up period established in companion epidemiologic studies.

Datum Three

Organs for which internal doses will be provided. This list is preliminary; it includes Bone Surface, Red Bone Marrow, Stomach Wall, Small Intestinal Wall, Upper Large Intestinal

Wall, Lower Large Intestinal Wall, Testes, Ovaries, Uterus, and "Other." It is possible to include in this list others from the 20 organs for which dose factors have been tabulated by the ICRP. In general, the criterion for the calculation of dose to a specific organ is whether the dose to that organ is significantly different from the average dose to the "other" organs.

Datum Four

The central estimate of internal dose for each of the organs selected in Datum Three. If Monte Carlo simulations of dose estimates indicate that the distribution of estimates is lognormal, then the central estimate will be the geometric mean.

Datum Five

A statement of uncertainty associated with each dose estimate in Datum Four. This statement of uncertainty will likely be a geometric standard deviation. If a geometric standard deviation is not an adequate description of uncertainty, then a specific confidence interval will be provided.

Datum Six

Organs for which external dose will be provided. This list is not yet fixed, but likely candidates are Bone Surface, Red Marrow, Testes, Esophagus, Breast, and "Other." These include the organs of primary interest in this study and those for which significant differences from "average organ dose" (represented by "Other") can be expected. Depending upon the outcome of uncertainty analyses, this list of candidate organs may be reduced to only Bone Surface and "Other."

Datum Seven

The central estimate of external dose for each of the organs selected in Datum Six. If Monte Carlo simulations of dose estimates indicate that the distribution of estimates is lognormal, then the central estimate will be the geometric mean.

Datum Eight

A statement of uncertainty associated with each dose estimate in Datum Seven. This statement of uncertainty will likely be a geometric standard deviation. If a geometric standard deviation is not an adequate description of uncertainty, then a specific confidence interval will be provided.

Datum Nine

The central estimate of total dose for each of the organs selected in Data Three and Six. If Monte Carlo simulations of dose estimates indicate that the distribution of estimates is lognormal, then the central estimate will be the geometric mean.